University of Stuttgart
IER Institute of Energy Economics and Rational Energy Use

Federal Ministry of Education and Research

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Course content for UrGe4Hy:
GAMS & VEDA Installation

Hardware & Software recommendations:

Veda2.0 works on <u>Windows</u> portables, desktops, servers, and VMs, with Windows 8/Windows server 2012 or above. Microsoft Excel is a prerequisite.

- CPU: Minimum 4 cores are recommended for STANDARD and ADVANCED licenses. 8 - 16 would be desirable for larger models
- RAM: 4-8 GB is enough for Veda, but GAMS needs more RAM for larger models. 32 GB would accommodate most models
- HDD: 500GB - 1TB free space for Veda and GAMS files

Installations involved:

1. GAMS (General Algebraic Modeling System)
2. VEDA2.0 (VErsatile Data Analyst)

1. GAMS:

1. Download respective GAMS release for your PC (Win- 64/32 bit) from:
   https://www.gams.com/download/
2. Run the downloaded Setup from the Windows Explorer
   a. Check "Use advanced installation mode" at the bottom of the GAMS setup form
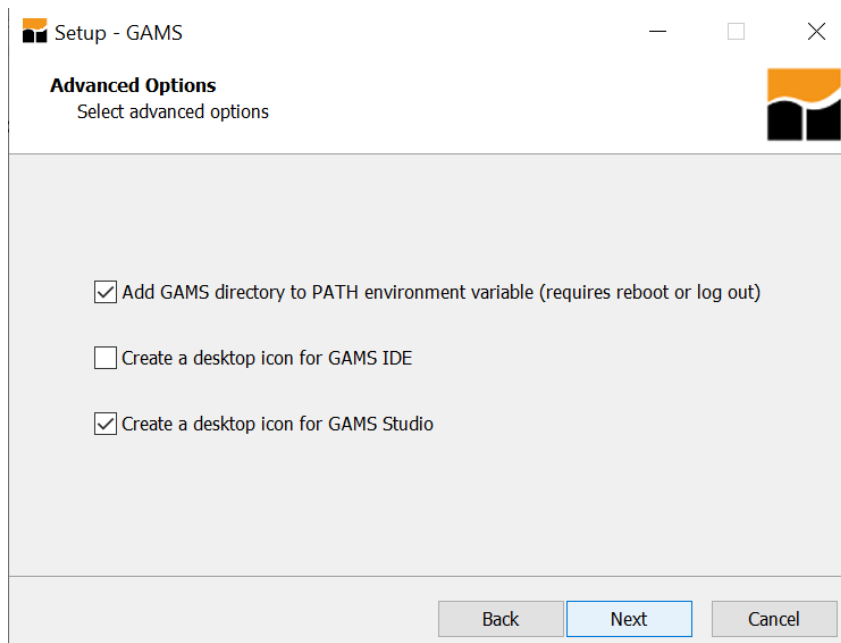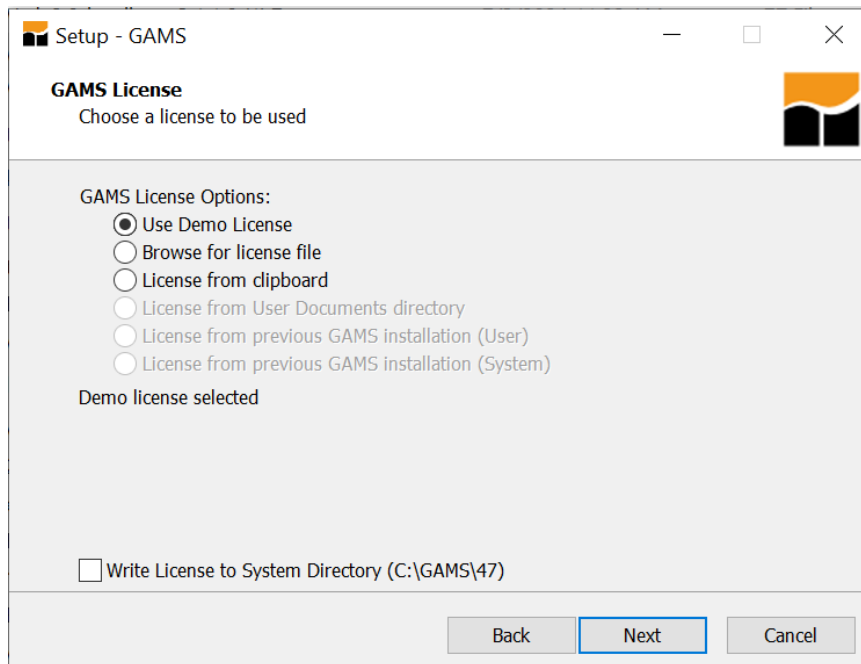   b. Let GAMS be installed into the default folder (\GAMS \<Win#>\<ver>)
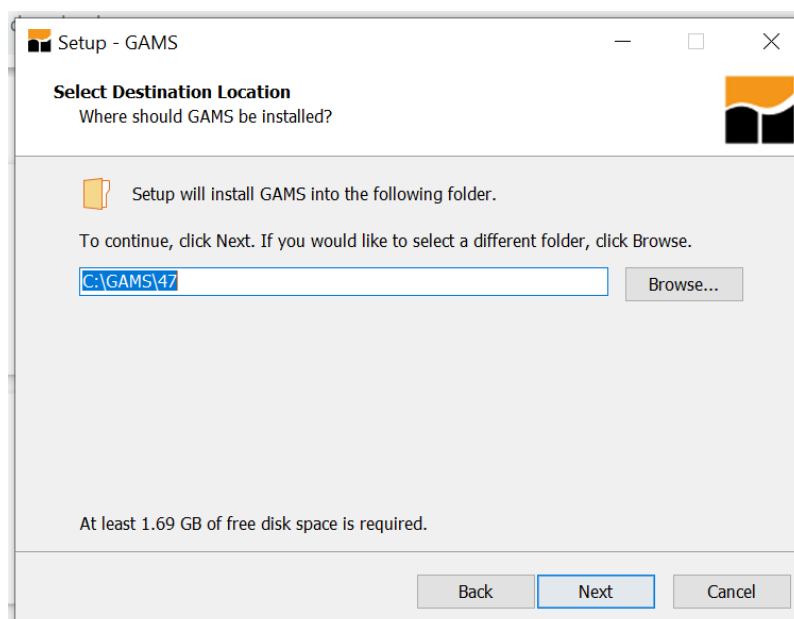
c. Use recommended GAMS Studio installation
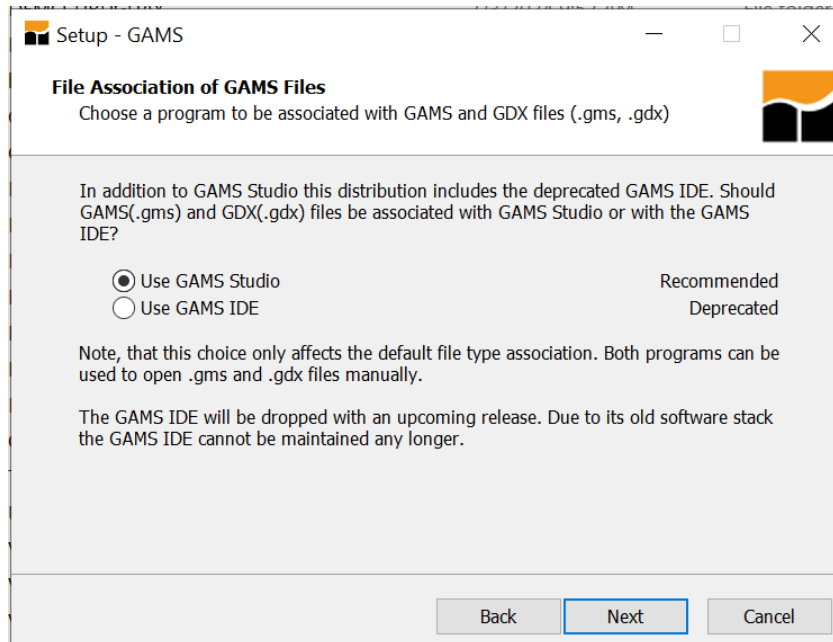
d. Verify and add GAMS directory PATH environment variable.

e. Select "Use Demo License"

3. Restart your PC
4. Check installation:
   a. Open command prompt (Win+r -> "cmd")
   b. Type "gams" to see of it is recognised

   c. Type "path" to check if the installation directory is present in it

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```
C:\Users\ac141827>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C:\WINDOWS\System32\WindowsPowerShell\v1.0\;C:\WINDOWS\System32\OpenSSH;C:\GAMS\40;C:\GAMS\40\gbin;C:\Users\ac141827\AppD
ata\Local\Microsoft\WindowsApps;C:\Users\ac141827\AppData\Local\GitHubDesktop\bin;C:\Users\ac141827\AppData\Local\Programs\Git\cmd;

C:\Users\ac141827>
```

d. If either of these *[(b) or (c)]* do not appear, follow the steps:
   i. Supposing your installation directory is: C:\GAMS\32
   ii. Search/open "system environment variables" (Right click on My Computer/This PC -> Properties -> Advanced System Settings)
   iii. Go to "Advanced" tab, click on "Environment Variables"
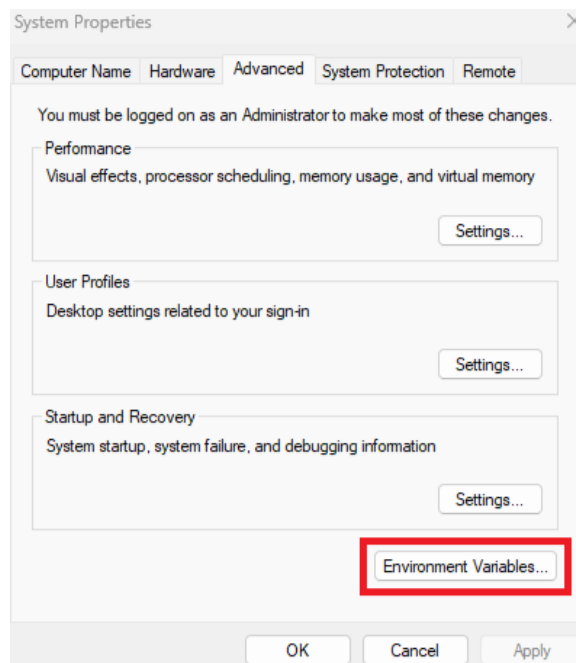
iv. Click on the "Path" and "Edit"

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Environment Variables ×

User variables for RavinderSinghChauhan

Variable	Value
OneDrive	C:\Users\RavinderSinghChauhan\OneDrive
Path	C:\Users\RavinderSinghChauhan\AppData\Local\Microsoft\Windo...
TEMP	C:\Users\RavinderSinghChauhan\AppData\Local\Temp
TMP	C:\Users\RavinderSinghChauhan\AppData\Local\Temp

New... Edit... Delete

System variables

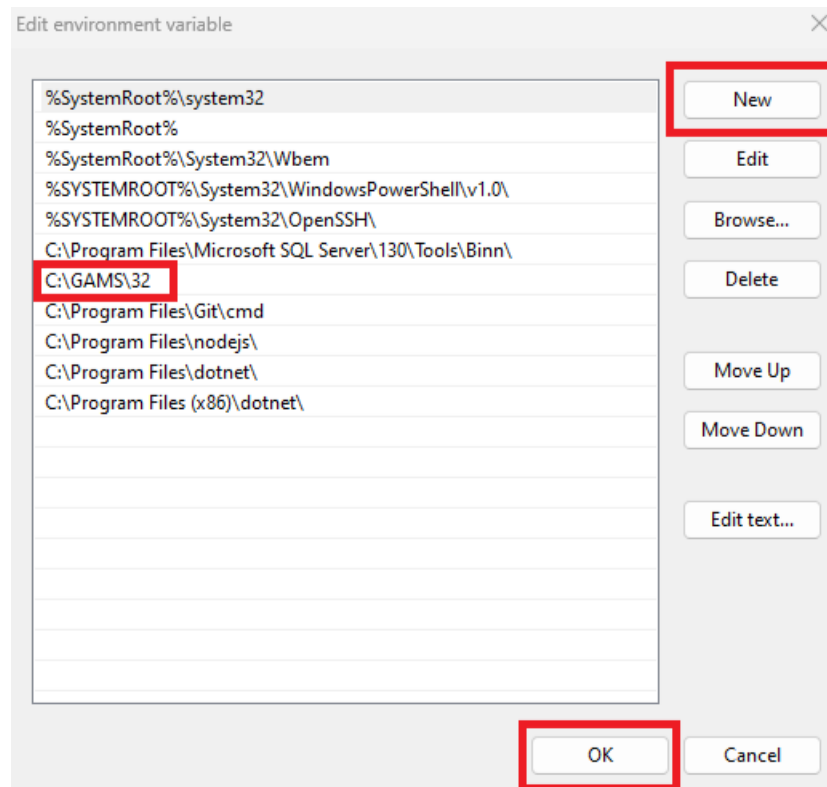| Variable	Value
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS	8
OS	Windows_NT
Path	C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wb...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE	AMD64

New... Edit... Delete

OK Cancel

v. Click on "New" and add the GAMS directory path (C:\GAMS\32) to the list

Edit environment variable ×

%SystemRoot%\system32	New
%SystemRoot%	Edit
%SystemRoot%\System32\Wbem	
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\	Browse...
%SYSTEMROOT%\System32\OpenSSH\	
C:\Program Files\Microsoft SQL Server\130\Tools\Binn\	Delete
C:\GAMS\32	
C:\Program Files\Git\cmd	
C:\Program Files\nodejs\	Move Up
C:\Program Files\dotnet\	
C:\Program Files (x86)\dotnet\	Move Down

Edit text...

OK Cancel

vi. You may need to restart to see GAMS listed in the PATH in the CMD
e. Open cmd, type "gams trnsport" to run a demo LP problem
   i. Check if objective value matches *153.675*

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```
Iteration     Dual Objective        In Variable        Out Variable
     1           73.125000    x(seattle,new-york) demand(new-york) slack
     2          119.025000     x(seattle,chicago) demand(chicago) slack
     3          153.675000     x(san-diego,topeka)  demand(topeka) slack
     4          153.675000   x(san-diego,new-york)  supply(seattle) slack

--- LP status (1): optimal.
--- Cplex Time: 0.02sec (det. 0.01 ticks)


Optimal solution found
Objective:       153.675000

--- Reading solution for model transport
--- Executing after solve: elapsed 0:00:00.131
--- trnsport.gms(66) 4 Mb
```
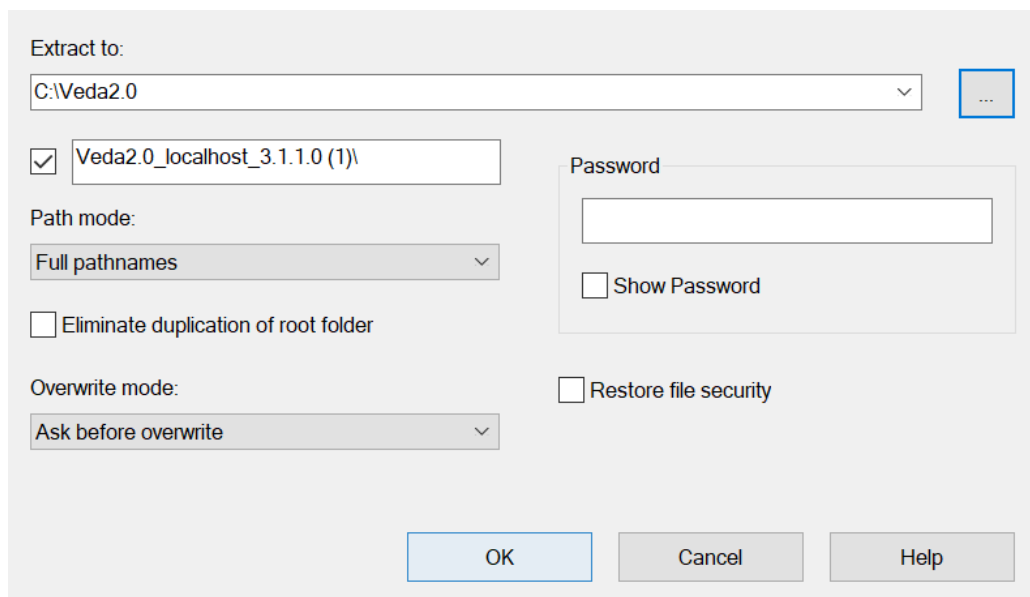
2. VEDA2.0:

Two options of installation (1, recommended) Localhost, (2) executable setup.

[You need to download (https://www.7-zip.org/download.html) and install 7zip before for the unzipping of the VEDA file]

1. Local Host installation:

    - Download and install prerequisites from: https://github.com/kanors-emr/Veda2.0-Installation/tree/master/Localhost%20Version%20Prerequisites
    - Download Veda2.0 from: https://github.com/kanors-emr/Veda2.0-Installation/releases/tag/v3.1.1.0 *(Veda2.0_localhost_3.1.1.0.7z; ~72 MB)*
    - Unzip the file and copy contents to C:\Veda2.0 *(~1.5 GB)*

Extract to:

C:\Veda2.0

☑ Veda2.0_localhost_3.1.1.0 (1)\

Path mode:
Full pathnames

☐ Eliminate duplication of root folder

Overwrite mode:
Ask before overwrite

Password

☐ Show Password

☐ Restore file security

OK   Cancel   Help

Start the application from the unzipped folder (C:\Veda2.0\Veda2.0_localhost_2.7.1.1) -> **Veda2.0.exe**

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Getting a trial license:

1. Once you have Veda2.0 open, follow: "Help" -> "License operations" -> "Activate/Deactivate License"
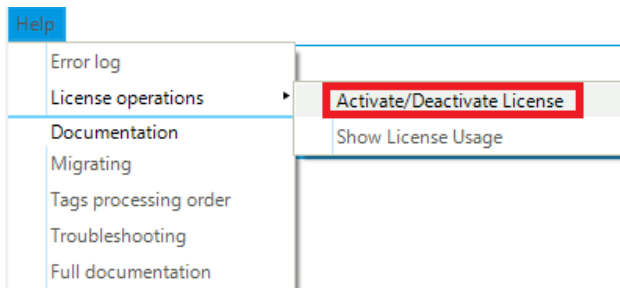
2. Select "Get Trial Key"
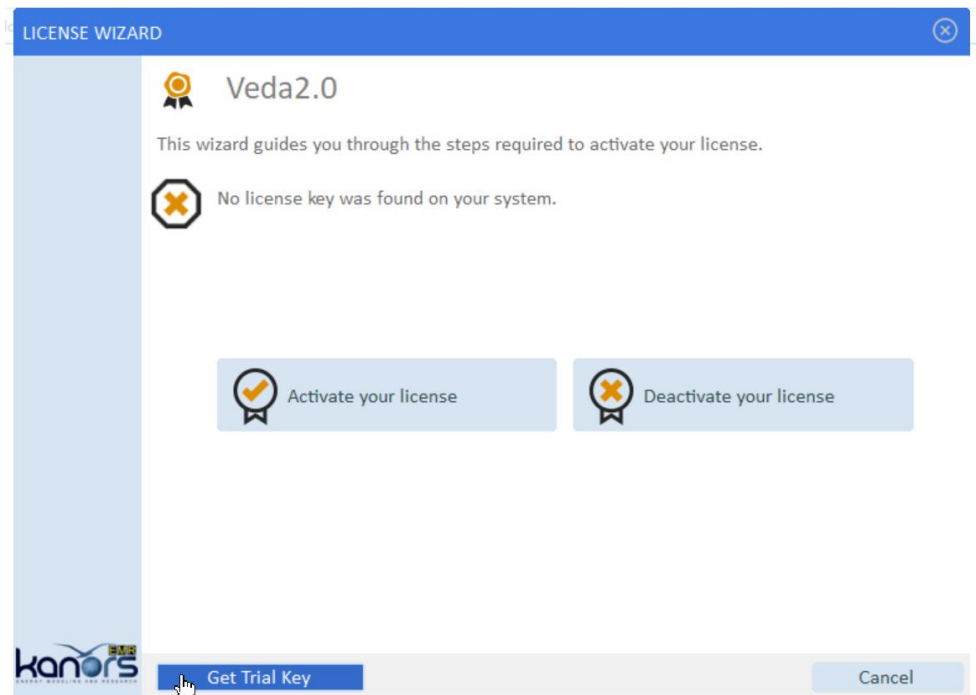
3. Follow the link and fill in the required details to get the trial license key through your email.

First Name

Last Name

abc@xyz.com

Organization

Address (as you would need to see on the invoice)

City

Afghanistan

Installing trial license key

Submit

4. After obtaining the key insert it through step (1) above and selecting "Activate your license", followed by "Activate Online".

LICENSE WIZARD

Activation Method

Select the operation you want to perform. If you are connected to the internet, you can activate your license automatically online. Otherwise, select to Activate Offline.

Activate Online   Activate Offline

kanors

Get Trial Key   < Back   Cancel

5. Insert your obtained trial license key and select "Activate license key"

That's it, now you're ready to start using VEDA!

Post-installation bugs:

- Veda makes a local connection to a PostgreSQL database. In case you see "No database response" message on Veda startup and it does not go away, please make sure that the system firewall is not blocking Veda in making the said connection (This could require permissions from your IT department).
- Veda uses Excel in background and in case of any pending popups in Excel that require user attention, Excel will not work which in turn will stop Veda to carry out important processes like synchronization of model. One such popup is the user sign-in popup, so we advise user to make sure they are signed in to Excel properly.

All useful links:

- https://veda-documentation.readthedocs.io/en/latest/pages/Getting%20started.html#installation
- https://github.com/kanors-emr/Veda2.0-Installation
- https://veda-documentation.readthedocs.io/en/latest/pages/License%20operations.html